(107)

G. M. 1908.

100 & 08

Sa. No. 1518.

Application & A. H. Pollen for exclusive Privilege in respect of an invention of Improvements in Typographical Machines.

G. R. S. 59]

GENERAL AND REVENUE SECRETARIAT.

1908–9
(Genl. Mis.)

File No. 100 – 08

Serial Nos. 1 to 18

Papers Filed.

Month April 1909

SUBJECT.

Application of A. H. Pollen for exclusive privilege in respect of an invention re "Improvements in typographical Machines"

PREVIOUS REFERENCES.	LATER REFERENCES.

Invention registered in 1908-09

G.R.S. 11] 1908.

GENERAL AND REVENUE SECRETARIAT.

(GM.)

NOTES.

File No. 600-08

of A.H. Pollen FILE HEADING.

Application for exclusive Privilege in respect of "Improvements in typographical Composing machines" under Patents Act XI of 1894

From

Messrs Remfry & Son

No. letter Dated 25/8/08 Received 28

Diary No. 986	Enclos. 2	Spare Copies	Serial No. 1

BRIEF ABSTRACT OF LETTER.

Forwards an application of A.H. Pollen for exclusive privilege in respect of Improvements in typographical machines and a power of attorney with the usual fees for Stamping &c.

NOTES AND ORDERS.

Submitted

The application fee and Stamp fee have been sent by Mo.

The application in respect of the same matter was filed in India on 22/8/08

NOTES—First sheet

GPB—30,000—3-4-07.

Serial No.

D986

Expert opinion under Section 6.(2) of Act XI of 1894 is required before the application leave to file the Specification can be granted.

Draft to Supdt. Govt Press put up. Subt

Sd. 1-9-08 VS. 1-9-08

Issue AM 1-9-08

2 To the Supdt Govt Press - No G. 1564 dt 5.9.08 — Fds the above application enquiry & report.

3 From the Supdt. Govt. Press. No. 235 dated 8/10/9/08

Refers to a letter report this Govt No 37 dated 9th April 1908 and states that the machinery is beneficial & Suitd.

On perusal of office note 7. No. 290-07. the Supdt. Govt. Press states the machine is beneficial and the same remark applies here also.

As no leave yet has been granted in India, I may it be awaited or leave file the Specification be granted.

Sd 12/9/08. VS. Put up draft granting leave

X. Flag J. put up this

Sus 9-9-08

NOTE—Contn. sheet.

GPB—50,000—13-5 08

AM 11-9-08

G. R. S. 12]
General and Revenue Secretariat.

File No. 100 of 1908 (3

Serial No.	
	Drafts
D 12.08	(1) Messrs Rempyo & Son with leave to file the Specification
	(2) Officer in charge Bangalore Dy. forwarding applcn. fee
	(3) Supdt of Stamps for stamping power of attorney &c.
	Sd 15/9/08. VS.
	Issue Sd 16/9
4.	To Supdt of Stamps. G 2180 dy 28.9.08. Forwarding Rs 1 & a power of attorney (Sl 1) & requests him to affix the Mysore Govt Stamps to it.
5	To the Offr in Ch of Huzur Treasury G 2181 dy 28.9.08. Forwarding Rs 10 fees from Mr A. H. Pollen (Sl 1) for leave to file a specification
6	To Mr A. H. Pollen G 2182 dy 28.9.08 authorising him to file a specification of his invention.
7	To Messrs Rempyo Son G 2183 dy 28.9.08. Forwarding Sl 6 for communication.

NOTE—Contn. sheet.

GPB—50,000—18-5-08

Serial No.

8 From the Superintendent of stamps No 79 dated 30E Sep: 1908
Returns the power of attorney (Sl 4) duly impressed with a rupee Mysore Stamp.

9 From the Officer in charge of the State Huzur Treasury
No 79 dated 30E Sep: 1908
Forwards a receipt for the Rs 10/- sent with Sl. 5.

10 Fr. Messrs Remfry & Son of Calcutta dd 23.3.09
Files the Specification for which leave has been granted (vide Sl 6) and sends Rs 30 for the usual fee as required by the Regn.
Usual 4 drafts with the original and draft orders (Invention Registers) 9 pages to be signed are submitted.
(Sd) 31-3-09
Issue
C&S
24/09

11 To the Officer in charge of S. H. Dy. No 5944 dt 20-4-09. Forwards for credit into the Dy. the sum of Rs 30 received with Sl. 10.

12 To the Compiler. No. Dy. No 5545 of 20-4-09 notifies the filing of a specification of the invention.

13 To Messrs Remfry & Son. No 5546 dt 20-4-09

Sd 1/10/08

NOTE—Contn. sheet.

GPB—50.000—13-5-08.

Serial No.

17 — From the Supdt. Govt. Museum
No 196 d 24.4.09
Forwards an acknt. for the receipt
a copy of Specification sent with U.O.
Acknt. has not yet been received from
the Chief Engineer. Formerly he used
to acknowledge the receipt of any Govt. Specification sent to this office for record.
Recently however, he has not
been sending acknowledgment for
the Copies of General Specifications
sent to them. Hence, he asked
to kindly acknowledge such receipts
invariably in this case as well as in
future cases.
Submitted with a draft.
(Sd 29.4.09)

We may wait a few days more

18 — Fr. The Chief Engineer — 4663 29/4
No 3297 d 27.4.09
Same as Sl 17 above.
This may be ordered to be filed here.
(Sd 30.4.09)

file 4/5

NOTE—Contn. sheet.

GPB—50,000—13-5-08

Rec'd 28-8-08

D. 986

Gm. 100—od—1

To

THE SECRETARY TO THE GOVERNMANT OF HIS HIGHNESS
THE MAHARAJA OF MYSORE, Gen: & Rev: Depts.

From

REMFRY & SON

Solicitors and Patent Agents,

8 Hastings Street, Calcutta.

U.K.10704/08.

Dated Clacutta, 25th Augt 1908.

Sir,

We have the honour to forward herewith an Application of ARTHUR HUNGERFORD POLLEN, a Director of Linotype and Machinery Limited of 188 and 189 Fleet Street, London, for leave to file a Specification under Part I of the Mysore Inventions and Designs Regulation, 1894, for "IMPROVEMENTS IN TYPOGRAPHICAL COMPOSING MACHINES", and solicit the favour of your submitting the same for the orders of His Highness the Dewan of Mysore.

We have also the honour to forward the Power of Attorney under which we are acting and solicit the favour of your stamping same ₹1/-.

A corresponding Application was filed in India yesterday, being Register No. 358 of 1908.

A remittance of ₹11/- is sent today.

We have the honour to be,

Sir,

Your very obedient servants,

REMFRY & SON.

A P P L I C A T I O N.

TO THE DEWAN OF MYSORE.

The Application of ARTHUR HUNGERFORD POLLEN, a Director of Linotype and Machinery Limited of 188 and 189 Fleet Street, London, for leave to file a Specification under Part I of the Mysore Inventions and Designs Regulation, 1894.

1. The Applicant is in possession of an Invention for "IMPROVEMENTS IN TYPOGRAPHICAL COMPOSING MACHINES"; Christian Augustus Albrecht and Carl Muehleisen, Engineers, both of 23 Chausseestrasse, Berlin, Germany, are the Inventors thereof; and, to the best of his information and belief, the invention is new within the meaning of Part I of the Mysore Inventions and Designs Regulation, 1894, and no circumstance exists which, if the Applicant is authorised to file a Specification and files it in accordance with that Part, will disentitle him to an Exclusive Privilege thereunder in respect of the Invention.

The Applicant has applied for a Patent in the United Kingdom in respect of this Invention No. 10704 dated 16th May 1908, see Journal No. 1010, page 760.

2. The following is a description of the Invention:-

The present invention relates to typographical composing machines and especially to that type of them which resemble a Mergenthaler linotype machine in which the matrix magazine is vertical. One of the

drawbacks to that position of the magaziue is the consequent elevation of the distributor whereby the rectification of jams therein is made difficult. The objects of the said invention are to reduce the height of the machine, reduce the cost of it by simplifying its construction, and to remove the above-mentioned drawback.

Accordingly the vertical magazine is lowered so as to reduce the distance between its delivery mouth and the oblique assembler belt. The higher part of the latter is only slightly inclined. To prevent transposition of the matrices, the now shortened channels of the assembler guide are bent in differing curves, the radii of the respective curvatures being successively reduced from right to left, so as to cause matrices from all the grooves in the magazine to travel to the assembling mechanism in equal times. The means for releasing the first elevator prior to its movement into the casting position, for separating the matrices from the space bars and for trimming the linotypes, are simplified.

The accompanying drawings illustrate the invention as applied to a Mergenthaler linotype machine and it will be specified in connection therewith.

Figure 1 is an elevation of the upper part of the improved linotype machine :

Figure 1[a], an elevation of the lower part of the same, a portion on the left being broken away and certain parts being shown in section :

Figure 2, a vertical cross-section on the line E–F in figure 1 and on the broken line C–D in figure 1[a], looking from left to right :

Figure 3, a side view of the vertical magazine and a part of the machine frame :

Figure 4, a similar side view, in which the magazine occupies an inclined extreme position :

Figure 5, a plan on a reduced scale of the driving gear :

Figure 6, an enlarged detail plan of the assembling mechanism, the vertically movable first elevator, and part of the melting pot :

Figure 7, a plan of the assembling mechanism shown in figure 6 :

Figure 8, a vertical cross section on the line A–B in figure 6 :

Figure 9, a plan of parts of the assembling mechanism in their normal position :

Figure 10, a similar plan showing the parts in their other extreme position :

Figure 11, a front elevation on a reduced scale, of the left hand part of the machine :

Figure 12, a side view of the same, looking at it from the left :

Figure 13, a vertical cross-section on an enlarged scale on the line G–H in figure 5 shewing the ejecting mechanism in one position :

Figure 14, a vertical cross-section on the same enlarged scale on the line I–K in figure 5 shewing knives for trimming the feet and " burrs " of the linotype :

Figure 15, a view similar to figure 13, shewing the ejecting mechanism in another position :

Figure 16, a diagram shewing the mould and the mechanism for trimming the linotype in four different positions, the periphery of the actuating cam being developed :

Figure 17, an elevation on an enlarged scale, of the mechanism for separating the matrices from the space bars and for conveying them to the distributor :

Figure 18, a similar view, certain parts occupying another position :

Figure 19, a vertical cross-section on the line L–M in figure 17, including a matrix :

Figure 20, a similar section, including a space bar :

Figure 21, an elevation on a larger scale of part of the distributing mechanism :

Figure 22, a side view of the same, when looked at from the right :

Figure 23, a similar view, in which a certain part occupies another position :

Figure 24, an elevation on a larger scale of a modification of the assembling mechanism :

Figure 25, a plan of the same ; and

Figure 26, a side view of the same when looked at from the left.

The machine comprises a frame N of any convenient construction, in which a horizontal rod 4 (see figures 1 to 4) is secured. A supporting frame 2 is mounted on this rod 4 to rock, it being made adjustable vertically and horizontally by means of adjusting screws 5, 5 in lugs 3, 3 on the frame 2. A magazine 1 of any known and approved construction is made to hang on the top edge of the supporting frame 2 and is in any known manner prevented from horizontally shifting thereon, for example by means of a ledge on the said top edge engaging in a corresponding recess of the top projection of the magazine 1, as shewn. The magazine 1 is made to normally bear by reason of its weight against horizontal pins 9, 9 provided on the machine frame N. Thereby the magazine 1 is held in its normal vertical position. Two horizontal studs 2^1, 2^1 are provided on the machine frame N on both sides of the magazine 1 and carry at their front ends a horizontal rail 7, against which the top of the magazine 1 is normally pressed by helical springs 2^2, 2^2 surrounding the studs 2^1, 2^1 with the aid of two arms 6 made in one piece with two handles 8, the long naves of which are turnable on the studs 2^1. The handles 8 and arms 6 operate in a manner similar to ordinary window-turns. When the handles 8 are turned downwards into their vertical position, their arms 6 will engage behind the magazine 1 for holding the latter in its normal position shewn in figure 3. On turning the two handles 8 upwards through a convenient angle, the magazine 1 will be set at liberty and can be tilted rearwards, see figure 4. In this inclined position, the magazine 1 can be secured by so turning the handles 8 as to cause their arms 6 to stop the magazine 1, as is clearly shewn. The inclined position of the magazine 1 will greatly facilitate the internal cleaning of the magazine and the setting in order of various parts, if any derangement should occur.

The magazine 1 is provided with an escapment mechanism of any known construction and the lowermost matrices *m* in the several channels

are normally stopped by the escapment levers *n* under the action of the springs 13 as usual. In the key-board 0 (of any known construction) the finger-keys are assumed to be arranged in six superposed rows (see figure 2) and the key levers 10,10 belonging to the keys in the three lower rows are assumed to rock on a horizontal rod 15, while those belonging to the keys in the three upper rows are assumed to rock on another horizontal rod 14. All the key levers 10,10 are made in one with upright arms 11,11 which normally bear on the several escapement levers *n* and can rock the same on their finger-keys being depressed for delivering the lowermost matrices *m*. This arrangement presents the advantage, that that the magazine 1 can be at once removed and replaced by another one without any trouble or inconvenience. In figure 1^a only a few key-levers 10 and arms 11 are shewn, while a few others are shewn in section. The key-board 0 is on one side provided with a special key-lever 16 (see figure 2) for delivering in a known manner by means of its vertical rod 16^1 (see figures 1 and 1^a) the lowermost space bar *a*.

In order to reduce the height of the machine, the upper part of the assembler belt 17, which serves for conveying the delivered matrices *m* to the assembling mechanism, is only slightly inclined. The distance between the delivery mouth of the magazine 1 and the said upper part of the belt 17, is reduced, so that the ribs 18, 18 for guiding the matrices, are made far shorter than in the ordinary linotype machine.

As the belt 17 runs at a constant speed and the paths of the matrices from the mouth of the several magazine grooves to the assembling mechanism vary greatly in length, there would be a danger that the matrices delivered from the magazine, would not arrive at the assembling mechanism in the prescribed order of succession, *i.e.* would be transposed, the matrix leaving the remotest magazine channel arriving later than the following matrix delivered from any nearer magazine channel. In order to avoid this danger, the several ribs 18,18 are bent towards the

assembling mechanisim, that is to the left, in a varying manner, as is clearly shewn at figures 1 and 1ª, so that their lower ends project the more to the left from the vertical lines of their upper ends, the nearer they are to the assembling mechanism. Thereby the speed of any matrix *m* falling down the respective bent rib 18 is the more retarded by friction the nearer the rib 18 is to the assembling mechanism, so that the matrices delivered from the various magazine channels will severally practically arrive within the same space of time at the assembling mechanism. In this manner the prescribed order of succession of the matrices delivered from different magazine channels and arriving at the assembling mechanism is ensured.

A horizontal rod 41 (see figures 1ª, and 6 to 12) is fastened in the machine frame N and parallel to it another rod 23 (figures 6, 8 and 24) in the same vertical plane is mounted in the machine frame N to longitudinally move. This rod 23 is constantly pressed by a helical spring 23^1 to the right in figures 1 and 1ª and carries at its left end an arm 21 which at its upper end is guided by the rod 41 engaging in its eye. On the front of the arm 21 two parallel vertical rails *t*, *t* (see figures 1ª, 6, 8 and 11) are placed horizontally and are fastened on the machine frame N in any convenient manner, for example by means of a support *u* in figure 1ª or the like. These rails *t*, *t* are parallel to the rod 23 and serve for guiding the matrices *m* and space bars *s* while being composed to form a line. At the right ends of the rails *t*, *t* in figure 1ª, the well known star wheel 22 is mounted to turn in the machine frame N and is driven by means of an endless belt and pulleys from the shaft of one pulley over which the belt 17 passes, as is shewn in dotted lines. A known inclined fixed plate 19 straddling the travelling belt 17 directs the dropping matrices *m* and space bars *s* downward over the star wheel 22, which erects them and pushes them to the left between the rails *t*, *t*. The latter are provided at the end next to the star wheel 22 with slots 20

through which the composed line of matrices and space bars can be seen. The arm 21 mentioned above is at its upper end made in one piece with a cranked resistant *v* (see figures 6 and 8, also 26), which extends downward between the two rails *t*, *t* and against which the composed line of matrices and space bars is advanced. To prevent the composed line from recoiling, on the star wheel 22 presenting a tooth space to it, a pinching lever 25 (see figure 6) is mounted on the arm 21 to rock on a pin 40. This lever 25 has an oval eye (see figure 8), through which the rod 41 passes, and is pressed to the left by a helical spring 44. From an examination of figure 6, it will be clear that it is easy for the star wheel 22 to push the composed line of matrices *m* and space bars *s* forward to the left, since the spring 44 yields and permits the pinching lever 25 to turn a little upwards owing to the friction of its eye on the rod 41. When the composed line is released by the star wheel 22 presenting a tooth space to it, the arm 21 with the resistant *v*, will be instantaneously stopped by the lever 25 pinching the rod 41. Parallel to the rod 41, a short horizontal rod 30 is fastened in the machine frame N and on this rod 30 a bracket 31 can be longitudinally adjusted in accordance with the length of the line to be composed. This bracket 31 carries a signal bell 28 and a hammer 27 which is normally pressed on a pin shewn by a helical spring 29 and has an arm 45. On the upper part of the resistant *v* is a pin *w* on which a three-armed lever 36, 37, 38, is mounted to rock in a horizontal plane (see figures 9 and 10). One arm 38 carries an adjustable screw 39 which is adapted to bear on the upper end of the pinching lever 25. It will be seen, that on turning the lever 38 in the direction of the hands of a clock, in figure 9, the adjustable screw 39 will bring the pinching lever 25 into its vertical position (see figure 10) for releasing the rod 41 and permitting the rod 23 with the arm 21 and resistant *v* to return to their initial position. On the free end of the arm 37 is a pin, on which a bent

lever 24,43 is mounted to rock in a horizontal plane. The vertical arm 21 has on its top a projection 47 which is connected with the smaller arm 43 of the bent lever 24, 43 by a helical spring 42 and is provided with a hole for guiding the end of the larger arm 24. This end of the arm 24 is on the right in figures 9 and 10 so cut out as to form a shoulder which can snap behind and bear on the projection 47 on the three-armed lever 36, 37, 38, being turned in the direction of the hands of a clock (see figure 10). On the rod 30 is a stop 147 (see figures 6 and 7), which is in the path of the arm 24. It will be now understood, that when the rod 23 with the arm 21 and the various parts thereon is permitted to return to its initial position on the right in figure 1[a], the stop 147 will strike the arm 24 and press it against the left inside of the hole in the projection 47, whereupon the helical spring 42 will pull the bent lever 43,24 rearwards and thus turn the three-armed lever 36, 37, 38 into the normal position shewn at figure 9, in which the pinching lever 25 is released and permitted to pinch the rod 41, under the action of the spring 44. The projecting reduced end of the arm 24 of the bent lever 24,43 is in its normal position adapted to strike the arm 26 of the hammer (see figure 6), and to raise the same and thereby turn the latter, until it strikes the adjustable bracket 31 and releases the arm 26, whereupon, under the action of the spring 29, the hammer 27 strikes the signal bell 28, so that the latter sounds and announces to the operator that the adjusted length of the line to be composed, has been nearly reached. The arm 26 of the hammer 27 will then snap behind the projecting reduced end of the arm 24 and thereby prevent the rod 23 with the arm 21 and all the parts thereon from shifting, until the three-armed lever 36, 37, 38 is turned in the direction of the hands of a clock in figure 10 and thus the projecting reduced end of the arm 24 is withdrawn so that it cannot strike the arm 26 nor the bracket 31. This turning of the three-armed lever 36, 37, 38 is effected in the following manner. On the resistant *v*, an operating

lever 33 is mounted to rock in a vertical plane and this lever 33 is provided with a handle 35 (see figures 1ª, 6, 7, 8, and also 24 to 26), a hook 34 and a segment 45. The arm 36 of the three-armed lever 36, 37, 38 is shaped in a manner clearly shewn at figure 10, its end being bent towards the arm 37 and leaving a narrow passage through which the operating lever 33 and the segment 45 can pass. Between the two arms 36 and 37 ample space is left to the operating lever 33 (see figure 9) in its normal position shewn at figure 1ª, in which the operating lever 33 bears against the rear side of the arm 36 and the segment 45 is beneath the arm 36. The hook 34 is at right angles to the operating lever 33 and is adapted to engage behind the last matrix *m* of the composed line, while the operating lever 33 may engage in the known upper triangular cuts in the matrices *m* and space bars *s*, as is clearly shewn at figure 6. When the operating lever 33 occupies its normal inclined position shewn at figure 1ª, it bears against the left inside of the space between the two arms 36 and 37 and is there prevented from turning downwards on the left. On the signal bell 28 sounding, the operator turns by means of the handle 35 the operating lever 33 downwards in the direction of the dotted arrow in figure 24, so that first the operating lever 33 sliding in the slot between the two arms 36 and 37 and passing through the narrow passage shewn at figure 10 will turn the three-armed lever 36, 37, 38 and afterwards the segment 45 will engage in and pass through the said passage and prevent the three-armed lever 36, 37, 38 from shifting. The operator can then move by means of the handle 35 and the hook 34 the composed line between the two rails *t, t*, to the left in the direction of the arrow shewn in figure 6 while straining the tension of the helical spring 23ª. In this manner, the composed line of matrices *m* and space bars *s* is transferred to the vertically movable yoke 32 to be presently described.

It is obvious that during the return of the operating lever 33 with

the arm 21 and the rod 23 from left to right, it is possible for the operator to turn meanwhile the operating lever 33 back to its normal position before the arm 21 reaches its initial position, since the shoulder of the arm 24 bearing on the projection 47 prevents the three-armed lever 36, 37, 38 from shifting, so that the projecting reduced end of the arm 24 cannot strike the arm 26 of the hammer 27. It may be that the operator forgets to turn the operating lever 33 upwards before reaching the end of the path of the arm 21. For this reason it may be preferable (although it is not absolutely necessary) to effect the turning upward of the operating lever 33 automatically as follows. On the segment 45 is fastened a pin 147^1, on which a roller 147 is mounted to turn, see figures 24 to 26. On the machine frame N is fastened a projection 149, to which a cam 148 is so hinged, that it is permitted to turn upwards but is prevented from turning downwards from its normal position shewn in figure 24. On the operating lever 33 with the yielding resistant *v* and the composed line being moved to the left, the roller 147 will strike the cam 148 and turn it upwards, whereby the further movement to the left is permitted. On the return of the yielding resistant *v* from left to right the cam 148 will strike the roller 147 and thereby turn the operating lever 33 upwards, in the direction of the full arrow in figure 24, into a vertical position or nearly so. On the machine frame N is further fastened a long leaf spring 150, the left free end of which is bent in the manner shewn at figure 24. It will be seen that during the return from left to right of the arm 21 the bent end of the leaf spring 150 will strike the roller 147 and push it to the left and thus move the operating lever 33 a little beyond its vertical position until the roller 147 leaves the projection 149 and is now pressed downwards by the straight part of the leaf spring 150, thus turning the operating lever 33 into its initial position.

In the machine frame N are fastened two vertical rods 108 and 109 (see figures 1, 1^a, 6, 11 and 12) for guiding the vertically movable yoke 32

by means of a sleeve 50 and ear 32^1 respectively. The yoke 32 may be of any known construction, the essential point being that it is adapted to receive the composed line of matrices *m* and space bars *s* and to present the intaglio letters of the same to the mouth of a mould 82 (see figure 2) to be described later on. The yoke 32 is suspended from a rope 99, which extends upwards and passes over one of two pulleys 100 (see figures 11 and 12) downwards, then round one of two pulleys 101 again upwards, next over the other pulley 100 downwards and at last round the other pulley 101 upwards, where its other end is attached to a helical spring 102, which in turn is attached to a hook 103 on the machine frame N. The two upper pulleys 100 are mounted to turn separately on a pin secured on the machine frame. The two lower pulleys 101 are in a similar manner independently turnable on a pin at the upper free end of a cranked lever 104, which is rigidly connected with a second cranked lever 115 by means of a long sleeve or nave 106 loose on an axle 106^1 secured in the machine frame N. A horizontal shaft 71 is mounted in the machine frame to turn and carries a cam disc 79, which is adapted to actuate a roller 107 at the free end of the cranked lever 115. The shaft 71 is in a manner to be described later on periodically set in motion to make a single complete revolution in the direction of the hands of a clock in figure 12. In the normal position of the parts shewn in full lines in figure 12 the vertically movable yoke 32 registers with the two rails *t*, *t*, so that it is adapted to receive the composed line. The yoke 32 is kept in this normal position by a spring-presssed pawl 48 which hangs on some pin 49 (see figure 6) or other projection on the rails *t*, *t*. The upper horizontal part of the operating lever 33 adjoining the handle 35 (see figure 26) is adapted to strike the spring-pressed pawl 48, whereby the yoke 32 is released and allowed to drop. This is permitted by the shape of the cam disc 79, as will be clear after an examination of figure 12. The short path of the two pulleys 101 permitted by the recess in the periphery of the cam disc 79, is multiplied

by the four strings carrying them, so that the path of the yoke 32 is four times as great and the yoke 32 at the end of its descent will be opposite to the mould 82 (see figures 1ª and 2). At this moment the roller 107 will bear on the part of the periphery of the cam disc 79 which is nearest to the shaft 71. When during the revolution of the latter the cam disc 79 depresses the roller 107 the yoke 32 will be thereby raised to its highest position, indicated by the dotted lines in figure 12, in which position it registers with the upper rails *x* (see figures 1 and 11) leading to the distributing mechanism. On the roller 107 leaving the part of the cam disc 79 remotest from the shaft 71 and running on the lower part shewn of same in figure 12 the yoke 32 will be again lowered into its normal position shewn at figure 1ª in which its spring-pressed pawl 48 engages the pin 49 or the like on the rails *t*, *t*. At this moment the roller 107 will have left the point on the cam disc 79, as is shewn at figure 12, and the shaft 71 will stop.

On the machine frame N a horizontal rail 84 (see figures 1ª and 2) is mounted to rock around a vertical pin 84 on the right (see figure 5) while its left free end is guided in the machine frame. On the rail 84 a slide 83 is mounted to reciprocate, and this slide 83 carries a mould 82, which in its normal position presents its cavity to the mouth of a melting-pot 73. The latter may be of any known construction and is in any known manner guided in the machine frame in the cross direction. A cam disc 72 is fastened on the shaft 71 and is adapted to horizontally reciprocate the melting-pot 73 by means of suitable parts as shewn in figure 5. On a pin in the machine frame N a lever 75 (see figures 2 and 5) is mounted to vertically rock, which is pivotally connected with a vertical rod 75^1 hinged to the piston 73^1 of the melting pot 73, and is permanently pressed downwards by a helical spring 76. In about its middle the lever 75 carries a roller which is adapted to roll on the periphery of a cam disc 74 fastened on the shaft

71. The slide 83 above mentioned is pivotally connected by means of a link 87 (see figure 16) with a cranked lever 85 (figure 2) which is fulcrummed on the machine frame at 86 and carries a roller 88 that engages in the cam groove 78 on a drum 77 fastened on the shaft 71. In figure 16 the periphery of the drum 77 is developed, so that the shape of the cam groove 78 can be seen and also the manner in which it by means of the roller 88 and lever 85 operates the slide 83 with the mould 82. On the rail 84 is fastened a bent bracket 84^1 (see figure 14) carrying knives 90, 90^1 and 91, of which the rear knife 91 is adapted to trim the foot of the cast linotype during the movement of the slide 83 from left to right, while the two front knives 90 and 90^1 are adapted to trim the "burrs" during the movement of the slide 83 from right to left. From an examination of figure 5 it will be evident, that on the slide 83 being pulled from left to right by the lever 85, the link 87 working eccentrically on the rail 84 will turn the latter a little rearwards so as to withdraw the mouth of the mould 82 from the composed line of matrices and space bars, and thus to release the yoke 32, which is then permitted to rise.

As is shewn at figures 13 and 15, an ejector 89 is fastened on a slide 93, which is horizontally guided in the machine frame N (see figure 5) and is pivotally connected with a rod 94, the rear end of which carries a roller 97 and is suspended from some pin 95 on the machine frame by means of a link 96 and is connected with a helical spring 98 attached to the machine frame. The spring 98 tends to press the roller 97 on the periphery of a cam disc 92 fastened on the shaft 71. The cam disc 92 has two distinct cams 92^a and 92^b of different maximum radii, as shewn in figures 13 and 15. The lower cam 92^a is adapted to push the ejector 89 only so much that the linotype projects a little on the front from the mould 82 as is shewn at figure 13, and the higher cam 92^b is adapted to push the ejector so far as to completely eject the linotype, as is shewn at figure 15.

A cranked lever 112 (see figures 1, 1ª, 11 and 12) is mounted in the machine frame N to rock and is rigidly connected with an arm carrying a roller 111, which normally bears on the periphery of a cam disc 80 fastened on the shaft 71. A horizontal rod 110 fastened above in the machine frame N serves for guiding a slide 81^1 which is pivotally connected with the upper end of the lever 112 by means of a link 113. The slide 81^1 carries a pusher 81 which projects upwards in the vertical central plane of the two rails *x* and is adapted to push the composed line from the yoke 32 to the rails *x*. Some known means such as a spring etc. (not shewn) are provided for pressing the roller 111 on the cam disc 80 and pressing the pusher 81 from left to right in figure 11.

In a similar manner to known machines the yoke 32 is adapted to set the shaft 71 to rotate in the following manner. A shaft 52 (see figure 1ª) is mounted in the machine frame N to rock and carries two arms 51 and 53, of which the arm 51 is bent upwards and engages in the path of the sleeve 50 of the yoke 32, while the other arm 53 (see also figure 5) is pivotally connected with a lever 54, the right free end of which normally bears on a lug 56, that is provided on a gear wheel 55 (see figure 2) fastened on the shaft 71. The right end of the lever 54 is further pivotally connected by a rod 57 with a weighted horizontal arm 58 fastened on a horizontal shaft 59 which is mounted in the machine frame to rock. A horizontal shaft 61 parallel to the shaft 71 is mounted in the machine frame N to turn and has fastened on it a pinion 61^1 meshing with the gear wheel 55 and two parallel arms 65 between which a brake 69 is radially guided and on which a bent lever 64, 66 is mounted to rock. The short arm 66 is pivotally connected with the shank of the brake 69, which shank is connected with the nave of the two arms 65 by means of a helical spring 70. Loose on the shaft 61 is a driving pulley 68, which is made in one piece with a rim 67 that on its outside serves as another driving pulley and on its inside serves as a brake rim. Either of the

two pulleys 67, 68 is constantly driven from without. Fastened on the shaft 59 below is a vertical arm 60 carrying an eye 62 which surrounds the shaft 61 and is adapted to press on a roller 63 provided at the lower end of the long arm 64 of the bent lever 64, 66. When the yoke 32 is released and allowed to drop, its sleeve 50 will strike the end of the arm 51 and withdraw by means of the parts 52 and 53 the right end of the lever 54 from the lug 56 on the gear wheel 55, whereupon the weight 58^1 on the arm 58 will pull the parts 57 and 54 downwards and press the arm 60 with the ring 62 on the roller 63, whereby the brake 69 is pressed on the inside of the rim 67 and the latter is thus connected by friction with the shaft 61 which is therefore set to rotate and to drive the shaft 71 by means of the pinion 61^1 and the gear wheel 55. On the shaft 71 completing one revolution the lug 56 on the gear wheel 55 will strike the free right end of the lever 54 and raise the latter with the rod 57 and the weighted arm 58, so that the spring 70 will pull inwards the brake 69 and thus disconnect the shaft 61 from the driving pulleys 67, 68 when the shaft 71 with all parts on it will stop. By shifting the weight 58^1 on the arm 58 the pressure of the brake 69 on the inside of the rim 67 can be regulated. That pulley 67 or 68 which is not driven from without is adapted to drive by an endless belt 151 (see figure 2) a pulley on an intermediate shaft 152, from which the power is transmitted to the travelling belt 17 by means of an endless rope 153 and suitable pulleys, and further by means of another endless rope 154 to the driving pulley 134 on a shaft 135 serving for driving the distributing mechanism, that is to say, three feeding screw-spindles 122,122 by means of a suitable gearing.

The distributing mechanism may be essentially any known construction and only the new features of this invention will be pointed out.

Adjoining the rails *x* mentioned above are two rails 117, 117,123 above and one rail 155 below (see figures 17 to 20), of which the upper ones extend to a point beyond the left end of the distributor rail 132 and

are provided with detaining shoulders 114, while the lower rail 155 is only as long as the rails 117, 117 and has a shoulder 115. Against the shoulders 114, 114 and 115 three lugs of the last matrix M or space bar *s* on the right in the composed line are pressed by the pusher 81. The parts 123 of the rails 117, 117 on the right side of the detaining shoulder 114 are made a little lower than the rails 117, 117 and are adapted to guide the upper lugs of both the matrices *m* and the space bars *s*, so that the matrices can engage in the teeth of the distributor-rail 132. As is clearly shewn at figures 19 and 20, the lugs of the space bars *a* are made as large as those of the matrices *m*, so that they can slide on the rails 117, 123, while they are made higher and provided at their upper external corners with pins for a purpose to be presently described. The separation of the several matrices and space bars from the line is effected in a known manner by means of a pair of separators 116, 116, which are suspended from a cross-head at the free end of the horizontal arm of a bent lever 119 and are connected together in their middle by means of a rod 116^1, while their lower ends are hooked and guided in vertical grooves 118, 118 provided on the outsides of the two rails 117, 117. Parallel to the rails 117, 117 a shaft 125 is mounted in the machine frame N to turn and is driven from the driving shaft 135 (see figures 1 and 22) in any known manner, or it may be in one piece with the shaft 135. It carries at its left end two cams 120 and 126, of which one, 120, is adapted to strike a roller at the lower end of the pendent arm of the bent lever 119, while the other cam, 126, is adapted to strike a roller at the free end of a lever, 156 (figure 17). The lever 156 is by its shaft rigidly connected with a second lever 157 (figure 18) in the common plane, which lever with its reduced end engages in an eye at the left upwardly bent end of a plate 124 that slides on the top surfaces of the upper lugs of the composed line, as is clearly shewn. The lever 157 is constantly pressed from left to right

by a helical spring 127 attached to the machine frame. It will be understood that on the cam 126 striking the corresponding roller the levers 156 and 157 will be turned to the left, while on the roller being released the spring 127 will recoil and move the plate 124 to the right. The horizontal arm of the bent lever 119 is constantly pressed upwards by a helical spring 121 connecting its pendent arm with a suitable pin on the machine frame N. The two separators 116, 116 may be connected with the lever 119 by an inclined helical spring as shewn and are adapted to strike from below parts of the upper lugs of each matrix *m* and space bar *s* and to lift them above the detaining shoulders 114, 114, whereupon the plate 124 according to this invention will throw them to the right, so that they will quickly leave space to the next following matrix *m* or space bar *s* to be separated. Thus every derangement or blocking up is avoided as much as possible. The several matrices and space bars separated and thrown to the right can readily engage in the square threads of the feeding screw-spindles 122, 122. Every matrix *m* is thereby caused to engage the teeth of the distributor-rail 132, while every space bar *s* will strike with its lower end the bent wall at the upper ends of the two known guides 128 and on its lugs leaving the reduced parts 123 of the rails 117, 117 their pins will in a known manner engage in the two guides 128, whereupon the space bar *s* will slide down the guides 128 and hang downwards on the lower bent ends of the latter, as is shewn at figure 1. Here they are stopped by known detaining shoulders at the ends of the guides 128 and they can be delivered one after the other in the known manner by means of the special key-lever 16 and rod 16^1 already mentioned above, they being severally lifted over the detaining shoulders and allowed to fall down the cover above the left pulley of the travelling belt 17 and over the inclined plate 19 between the star wheel 22 and the last matrix of the line being composed.

Between the top of the magazine 1 on the one hand and the distributor-rail 132 and the feeding screw-spindles 122, 122 on the other hand a movable bar 129 (see figures 1, 2 and 21) is disposed, which at its ends is suspended from the machine frame N by means of links 130, 130, so that it is permitted to longitudinally move. The bar 129 is on the front provided with a series of vertical ribs 133, 133, which correspond with the ribs 131, 131 on the insides of the magazine 1 and serve for guiding the matrices dropping from the distributor-rail 132 and for conducting them to the channels of the magazine. The spaces between the ribs 133, 133 are on the front closed by a curved plate 145 (see figures 2 to 4), which is hinged at 146 on the rail 7 and can be turned downwards for inspecting the channels between the ribs 133, 133. The bar 129 is pressed from right to left into its normal position shewn at figure 21 by a helical spring 158. It is provided on its right end with a horizontal extension 142, having a hole 143. On the machine frame N is a pin 140 (see figures 22 and 23), on which a bent lever 138, 139 is mounted to rock in a vertical plane at right angles to the shaft 135. The horizontal arm 139 of this lever has a pin 141, which normally bears on the extension 142 and can engage in the hole 143 on the bar 129 being shifted to the right. The driving pulley 134 is loose on the shaft 135 and is yieldingly connected with the latter by means of a friction clutch 136 of any known construction. The pulley 134 is constantly driven and is permitted to turn on the shaft 135 should the latter be stopped either from any of the screw-spindles 122, 122, or by means of the friction clutch 136, in case the bar 129 is shifted to the right in figure 21, which is effected as follows :—The friction clutch 136 is provided with two opposite pins 137, 137, which normally move past a pin 144 provided on the upper arm 138 of the bent lever 138, 139, since the horizontal arm of the latter is supported by the extension 142. Should any matrix get wedged between any two ribs 133, 133 and be moved further to the right by the

rotating screw-spindles 122, 122, it will take along with it the bar 129, so that the pin 141 on the dropping arm 139 will engage in the hole 143 of the extension 142 and the pin 144 on the upper arm 138 will engage in the path of the pins 137, 137 and stop either of them and thereby the friction clutch 136 with the shaft 135, as is shewn at figure 23.

The linotype machine described operates as follows :—

The bracket 31 (figure 6) is adjusted on the rod 30 in accordance with the desired length of the linotypes to be produced. The operator then depresses the several keys of the key-board O in accordance with the manuscript etc. for delivering the respective matrices *m* from the magazine and the space bars *s* from the lower ends of the guides 128. The star wheel 22 pushes the matrices and space bars against the yielding resistant *v* forward to the left between the rails *t*, *t*, while overcoming the tension of the helical spring 23^1. The projecting reduced end of the lever 24 after having caused the signal bell 28 to sound by striking and releasing the arm 26 will strike the bracket 31 and stop the resistant *v* whereupon the operator turns the operating lever 33 downwards by means of its handle 35, so that the hook 34 engages behind the last matrix *m* of the composed line and the operating lever 33 turns the three-armed lever 36, 37, 38 into its extreme position shewn at figure 10. Thereby the pinching lever 25 is disconnected from the rod 41 and the composed line is set at liberty. Now the operator moves by means of the handle 35 and the operating lever 33 the composed line to the left for transferring the latter to the vertically movable yoke 32, the extreme position being indicated by the dotted lines in figure 6. At the moment that the part between the operating lever 33 and the handle 35 strikes the spring-pressed pawl 48, the latter will be pushed off its support 49, so that the yoke 32, now liberated, will drop into its lowermost position while pulling upwards the lever 104 by means of the rope 99 until the roller

107 on the lever 115 strikes the cam disc 79. The composed line is then justified by means of any known device, the space bars *s* being driven upwards. The sleeve 50 of the dropping yoke 32 has struck the lever 51 for setting the shaft 71 to rotate in the manner described above. The intaglio letters of the composed line are now opposite to the mouth of the mould 82 and the cam disc 72 rotating will push the mouth of the melting pot 73 against the mould 82 and thereby the latter against the composed line while turning the rail 84 a little to the front. Next the cam disc 74 releases the roller on the lever 75, so that the helical spring 76 by means of the lever 75 and the rod 75^1 drives downwards the piston 73^1 for forcing the molten metal into the mould 82, whereupon the cam disc 74 again strikes the roller on the lever 75 for raising the latter with the piston 73^1. Afterwards the cam disc 72 withdraws the melting-pot 73 and the cam groove 78 on the drum 77 will by means of the parts 88, 85, 87 and 83 shift the mould 82 from the position I to the position II shewn at figure 16 while turning a little rearwards the rail 84 to withdraw the top of the cast linotype from the intaglio letters of the composed line. During the movement of the slide 83 along the rail 84 the rear knife 91 will have trimmed the foot of the linotype.

Meanwhile the yoke 32 with the composed line has been raised into its uppermost position by the cam disc 79 in the manner described above. Thereupon the cam disc 80 will release the roller 111, so that the respective spring (not shewn) will actuate the parts 112 and 113 for pushing by means of the pusher 81 the composed line from the yoke 32 to the rails *x*, 117 against the detaining shoulders 114, 115. Afterwards the yoke 32 descends and returns to its initial position.

Meantime the cam 92^3 on the cam disc 92 will by the parts 97, 94 and 93 push the ejector 89 into the mould 82, but only so much that the linotype projects a little from the mould 82 as is shewn at figure 13. Thereupon the ejector 89 is withdrawn from the mould 82, and the cam

groove 78 on the drum 77 will cause the mould 82 to be shifted from the position II to the other one III shown at figure 16, so that during this movement the front knives 90, 90^1 will have trimmed the "burrs" of the linotype, whereupon the mould 82 is shifted back from the position III so that IV and the larger cam 92^b on the cam disc 92 causes the ejector 89 to eject the finished linotype (see figure 15) from the mould 82 to some galley not shewn. On the ejector 89 withdrawing from the mould 82, the latter is returned to its initial position, whereupon the shaft 71 completes its single revolution and is stopped in the manner described above. The lever 112 will by this time have been returned to its initial position.

The machine is provided with further mechanisms or devices for accomplishing its work satisfactorily, which mechanisms or devices are not described here, as they are known and form no part of the present invention.

HAVING now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:-

1. In a typographical composing machine, the combination with a vertical magazine, of a travelling belt having its upper part slightly inclined at a short distance from the mouth of said magazine, an assembling mechanism adjoining the delivery of said travelling belt, and a plurality of ribs between said magazine and the upper part of said travelling belt for guiding the delivered matrices, said ribs being bent towards said assembling mechanism and the lower end of each rib projecting the more from the vertical line of its upper end the nearer the rib is to the assembling mechanism, so as to ensure the prescribed order of succession of the matrices arriving at the assembling mechanism.

2. In a typographical composing machine, the combination with a pair of rails adapted to guide the matrices and space bars while being composed to form a line, of a yoke vertically movable in the machine

frame and adapted to receive from said pair of rails the composed line and to present it in a lower position to the mould, and means for transferring the composed lines from said pair of rails to said yoke while automatically releasing the latter and allowing it to drop into the casting position.

3. In a typographical composing machine, the combination with a pair of rails adapted to guide the matrices and space bars while being composed to form a line, of a yoke vertically movable in the machine frame and adapted to receive from said pair of rails the composed line and to present it in a lower position to the mould, a latch in said yoke to prevent it from dropping, and means for transferring the composed line from said pair of rails to said yoke while striking said latch, whereby said yoke is released and allowed to drop into the casting position.

4. In a typographical composing machine, the combination with a pair of rails adapted to guide the matrices and space bars while being composed to form a line, of a yielding resistant against which the matrices and space bars are advanced, a yoke vertically movable in the machine frame and adapted to receive from said pair of rails the composed line and to present it in a lower position to the mould, and means on said yielding resistant for transferring the composed line from said pair of rails to said yoke while automatically releasing the latter and allowing it to drop into the casting position.

5. In a typographical composing machine, the combination with a pair of rails adapted to guide the matrices and space bars while being composed to form a line, of a yielding resistant against which the matrices and space bars are advanced, a yoke vertically movable in the machine frame and adapted to receive from said pair of rails the composed line and to present it in a lower position to the mould, means for preventing said yielding resistant from recoiling during its advance, an operating lever on said yielding resistant and adapted to transfer the composed line

from said pair of rails to said yoke while automatically releasing the latter and allowing it to drop into the casting position, and means on said yielding resistant and controlled by said operating lever for releasing the former and permitting it to return.

6. In a typographical composing machine, the combination with a pair of rails adapted to guide the matrices and space bars while being composed to form a line, of a yielding resistant against which the matrices and space bars are advanced, a yoke vertically movable in the machine frame and adapted to receive from said pair of rails the composed line, a braking lever on said yielding resistant for normally preventing it from recoiling during its advance, an adjustable stop on the machine frame for limiting the length of the line to be composed, a part rocking on said yielding resistant and controlling said braking lever, a spring tending to turn said part in one direction, a bolt on said part and adapted to strike in its normal position said adjustable stop, and an operating lever turnable on said yielding resistant and adapted on being turned into another position to engage the last matrix composed for transferring the composed line to said yoke while turning said part in the opposite direction to withdraw said bolt and render inoperative said braking lever.

7. In a typographical composing machine, the combination with a pair of rails adapted to guide the matrices and space bars while being composed to form a line, of a yielding resistant against which the matrices and space bars are advanced, a yoke vertically movable in the machine frame and adapted to receive from said pair of rails the composed line and to present it in a lower position to the mould, a latch in said yoke to prevent it from dropping, a braking lever on said yielding resistant for normally preventing it from recoiling during its advance, an adjustable stop on the machine frame for limiting the length of the line to be composed, a part rocking on said yielding resistant and controlling said braking lever, a spring tending to turn said part in one

direction, a bolt on said part and adapted to strike in its normal position said adjustable stop, and an operating lever turnable on said yielding resistant and adapted on being turned into another position to engage the last matrix for transferring the composed line to said yoke while turning said part in the opposite direction to withdraw said bolt and render inoperative said braking lever, it being adapted to strike said latch for releasing said yoke and permitting same to drop into the casting position.

8. In a typographical composing machine, the combination with the yielding resistant *v*, of the braking lever 25 for preventing the resistant *v* from recoiling during its advance, the adjustable stop 31 for limiting the length of the line to be composed, the three-armed lever 36, 37, 38 rocking on the resistant *v* and controlling by means of its arm 38 the braking lever 25, the bolt 24 on the arm 37 adapted to strike the adjustable stop 31, and the operating lever 33 adapted on being turned to engage with its hook 34 the last matrix composed for transferring the composed line to the vertically movable yoke 32 while turning the three-armed lever 36, 37, 38 by means of its arm 36 to withdraw the bolt 24 from the stop 31 and render inoperative the braking lever 25.

9. In a typographical composing machine, the combination with the pair of rails *t*, *t* for guiding the matrices and space bars while being composed to form a line, the yielding resistant *v*, the vertically movable yoke 32 with the latch 48 to prevent it from dropping, the operating lever 33 adapted on being turned to engage with its hook 34 the last matrix and the handle 35 adapted to transfer the composed line from the rails *t*, *t* to the yoke 32 while striking the latch 48 to release the yoke 32 and permit it to drop into the casting position.

10. In a typographical composing machine, the combination with the yielding resistant *v*, of the braking lever 25, the adjustable stop 31, the three-armed lever 36, 37, 38 rocking on the resistant *v*, and controlling with its arm 38 the braking lever 25, the bolt 24 on the arm 37 adapted

to strike the adjustable stop 31, and the operating lever 33 provided with the segment 45 and adapted on being turned to engage with its hook 34 the last matrix composed for transferring the composed line to the vertically movable yoke 32 while turning the three-armed lever 36, 37, 38 by means of the arm 36 to withdraw the bolt 24 from the stop 31 and render inoperative the braking lever 25, the segment 45 engaging in the narrow passage between the two arms 36 and 37.

11. In a typographical composing machine, the combination with the yielding resistant *v* provided with the guide 47, of the adjustable stop 31, the lever 37 rocking on the resistant *v*, the spring-pressed bolt 24 rocking on the lever 37 and guided in the guide 47 and adapted to strike in its normal position the adjustable stop 31 and to turn on being withdrawn therefrom and to bear with a shoulder on the guide 47, means for turning the lever 37 to withdraw the bolt 24 for transferring the composed line to the vertically movable yoke 32, and the stop 147 adapted to strike and release the withdrawn bolt 24 on the resistant *v* returning to its initial position.

12. In a typographical composing machine, the combination with a pair of rails adapted to guide the matrices and space bars while being composed to form a line, of a yielding resistant against which the matrices and space bars are advanced, a yoke vertically movable in the machine frame and adapted to receive from said pair of rails the composed line, an operating lever mounted on said resistant to turn in a vertical plane and adapted on being turned downwards to engage the last matrix composed for transferring the composed line to said yoke, and means for automatically turning upwards said operating lever during the return of said resistant to its initial position.

13. In a typographical composing machine, the combination with a pair of rails adapted to guide the matrices and space bars while being composed to form a line, of a yielding resistant against which the matrices

and space bars are advanced, a yoke vertically movable in the machine frame and adapted to receive from said pair of rails the composed line, an operating lever mounted on said resistant to turn in a vertical plane and adapted on being turned downwards to engage the last matrix composed for transferring the composed line to said yoke, a roller on said operating lever, and a cam on the machine frame and adapted to turn upwards on being struck and raised by said roller during the movement of said resistant with said operating lever to said yoke and to strike said roller and thereby turn upwards said operating lever during the return of said resistant to its initial position.

14. In a typographical composing machine, the combination with a pair of rails adapted to guide the matrices and space bars while being composed to form a line, of a yielding resistant against which the matrices and space bars are advanced, a yoke vertically movable in the machine frame and adapted to receive from said pair of rails the composed line, an operating lever mounted on said resistant to turn in a vertical plane and adapted on being turned downwards to engage the last matrix composed for transferring the composed line to said yoke, a roller on said operating lever, a cam on the machine frame and adapted to turn upwards on being struck and raised by said roller during the movement of said resistant with said operating lever to said yoke and to strike said roller and thereby turn upwards said operating lever into a nearly vertical position during the return of said resistant to its initial position, and a leaf spring fastened on the machine frame and adapted to actuate said roller and thereby turn said operating lever to its initial position.

15. In a typographical composing machine, the combination with the yielding resistant *v*, of the operating lever 33 thereon and adapted to be turned downwards for engaging the last matrix composed, the handle 35 for moving the operating lever 33 with the resistant *v* and the composed line forward to the vertically movable yoke 32, the roller 147

on the operating lever 33 and the cam 148 hinged to the machine frame and adapted to be turned by the roller 147 during the forward movement and to strike same and thereby turn upwards the operating lever 33 during the return.

16. In a typographical composing machine, the combination with the yielding resistant *r*, of the operating lever 33 thereon and adapted to be turned downwards for engaging the last matrix composed, the handle 35 for moving the operating lever 33 with the resistant *v* and the composed line forward to the vertically movable yoke 32, the roller 147 on the operating lever 33, the cam 148 hinged to the machine frame and adapted to be turned upwards by the roller 147 during the forward movement and to strike same and thereby turn the operating lever 33 upwards into a nearly vertical position during the return, and the leaf spring 150 adapted to actuate the roller 147 for turning the erected operating lever 33 into its initial position.

17. In a typographical composing machine, the combination with a yoke vertically movable in the machine frame and adapted on being dropped to present the composed line of matrices and space bars to the mould, of a mechanism for operating the melting-pot and the means for trimming and ejecting the cast linotype, a driving shaft for driving said mechanism, a driving pulley loose on said driving shaft, a friction clutch fast on said driving shaft and comprising a spring-pressed lever reaching with its free end to near the shaft, a shaft at right angles to said driving shaft, an arm fastened on said shaft and provided at its free end with an eye which surrounds said driving shaft and is adapted to press on the spring-pressed lever of said friction clutch, coupling it with said driving pulley, a weighted arm fastened on said shaft, and means controlling said weighted lever and adapted to be actuated by the dropping yoke for engaging said friction clutch.

18. In a typographical composing machine, the combination with the

driving shaft 61 adapted to drive the casting, trimming and ejecting mechanism, of the driving pulley 67, 68 loose on the shaft 61, the friction clutch 68, 69 adapted to couple the shaft 61 with the driving pulley 67, 68 and comprising the bent lever 64, 66, the spring 70 for withdrawing the lever 64, 66 and thereby disconnecting the friction clutch 65, 69 from the driving pulley 67, 68, the shaft 59, the arm 60 having the eye 62 surrounding the shaft 61 and adapted to press on the lever 64, the weighted lever 58, and means controlling the weighted lever 58 and adapted to be actuated by the dropping yoke 32 for engaging the friction clutch 65, 69.

19. In a typographical composing machine, the combination with a rail, of a slide movable on said rail and carrying a mould, knives on said rail for trimming the foot and "burrs" of the cast linotype, a shaft set by the dropping yoke or elevator to rotate, a cam drum on said shaft, a lever mounted on the machine frame to rock and pivotally connected with said slide, a roller on said lever and operated from said cam drum, a cam disc on said shaft, and an ejector operated from said cam disc, said cam drum and said cam disc being so shaped, that first said mould is moved from the casting position to the ejecting position during which movement the foot of the cast linotype is trimmed whereupon said ejector pushes the linotype a little forward in the mould and withdraws, next the mould is moved back from the ejecting position to an intermediate position, during which movement the "burrs" of the linotype are trimmed, afterwards the mould is moved to the ejecting position, whereupon the ejector completely ejects the trimmed linotype and withdraws, and at last said mould is returned to the casting position.

20. In a typographical composing machine, the combination with the rail 84, of the slide 83 movable thereon and carrying the mould 82, the bracket 84^1 with the trimming knives 90, 90^1 and 91, the shaft 71 set by the dropping yoke 32 to rotate, the cam drum 77, 78, the lever 85 rocking

on the machine frame and pivotally connected with the slide 83 by means of the link 87, the roller 88 engaging in the groove 78 of the cam drum, the cam disc 92 on the shaft 71, and the ejector 89 thereby operated, the cam drum 77, 78 and the cam disc 92 being so shaped that first the mould 82 is moved from the casting position to the ejecting position during which movement the foot of the cast linotype is trimmed whereupon the ejector 89 pushes the linotype a little forward in the mould and withdraws, next the mould 82 is moved back to an intermediate position during which movement the "burrs" of the linotype are trimmed, afterwards the mould 82 is moved to the ejecting position, whereupon the ejector 89 completely ejects the linotype and withdraws, and at last the mould 82 is returned to the casting position.

21. In a typographical composing machine, the combination with a distributor-rail, of feeding screw-spindles, a pair of rails adapted to receive from the vertically movable yoke the line of matrices and space bars and extending to a point beyond the adjoining end of said distributor-rail and provided with shoulders against which the line is pressed, a pair of separators vertically guided for separating the matrices and space bars and lifting them by means of their upper lugs above the shoulders one after the other, a spring-pressed slide horizontally guided and adapted to strike the upper end of the separated and lifted matrix or space bar and to throw it forward into said feeding screw-spindles, and means for periodically withdrawing said spring-pressed slide against the pressure of its spring.

22. In a typographical composing machine, the combination with the rails 117, 123 provided with shoulders 114, of the separators 116 vertically guided for engaging beneath the upper lugs of the last matrix or space bar and lifting them above the shoulders 114, the spring-pressed slide 124 adapted to strike the upper end of the separated and lifted matrix or space bar and to throw it forward into the feeding screw-

spindles 122, and the cam 126 driven from the machine for periodically withdrawing the spring-pressed slide 124 against the pressure of its spring 127.

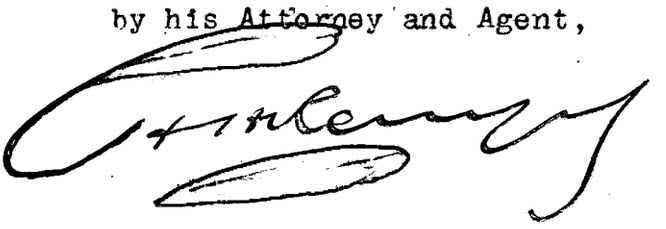
23. In a typographical composing machine, the combination with the distributing mechanism comprising a driving shaft with a friction clutch and a loose driving pulley, of a bar movable between said distributing mechanism and the vertical magazine and provided with ribs corresponding with those of the magazine, it having a horizontal extension with a hole, and a bent lever rocking on the machine frame in a vertical plane at right angles to said driving shaft and having on its lower arm a pin which normally bears on the horizontal extension of said bar and can engage in the hole of same when its upper arm will strike and stop said friction clutch and thereby said driving shaft.

24. In a typographical composing machine, the combination with the bar 129 movable between the distributing mechanism and the vertical magazine 1 and having the extension 142 with the hole 143, of the bent lever 138, 139 rocking on the machine frame and having on its lower arm 139 the pin 141 which normally bears on the extension 142 and can engage in the hole 143 when its upper arm 138 will strike either pin 137 of the friction clutch 136 and thereby stop the driving shaft 135 against the friction of the driving pulley 134.

3. The Applicant, therefore, applies for leave to file a Specification of the Invention pursuant to Part I of the Inventions and Designs Regulation, 1894.

ARTHUR HUNGERFORD POLLEN,

by his Attorney and Agent,



I, HENRY HAMILTON REMFRY, of Calcutta, Solicitor, the duly appointed Agent of the Applicant above named, do declare that the facts stated in this Application are true to my knowledge, execpt as to matters stated on information and belief and as to those matters I believe them to be true.

Dated this 25th day of August 1908.

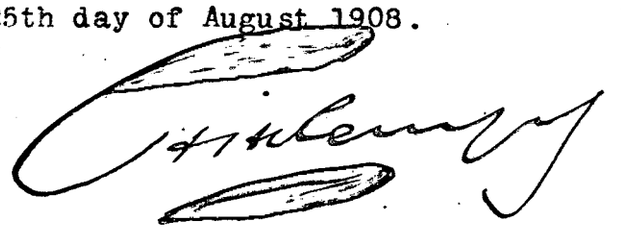
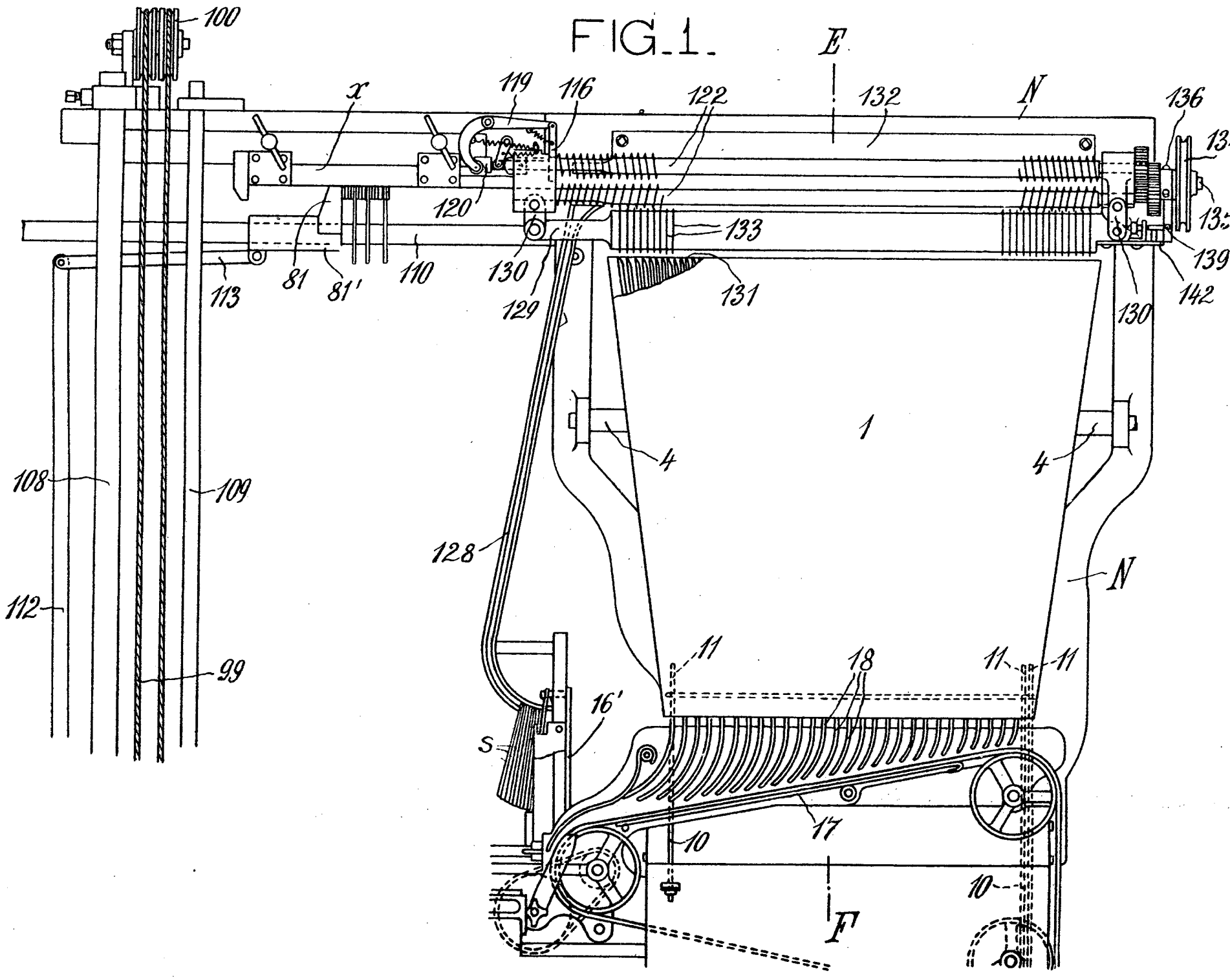


FIG_1.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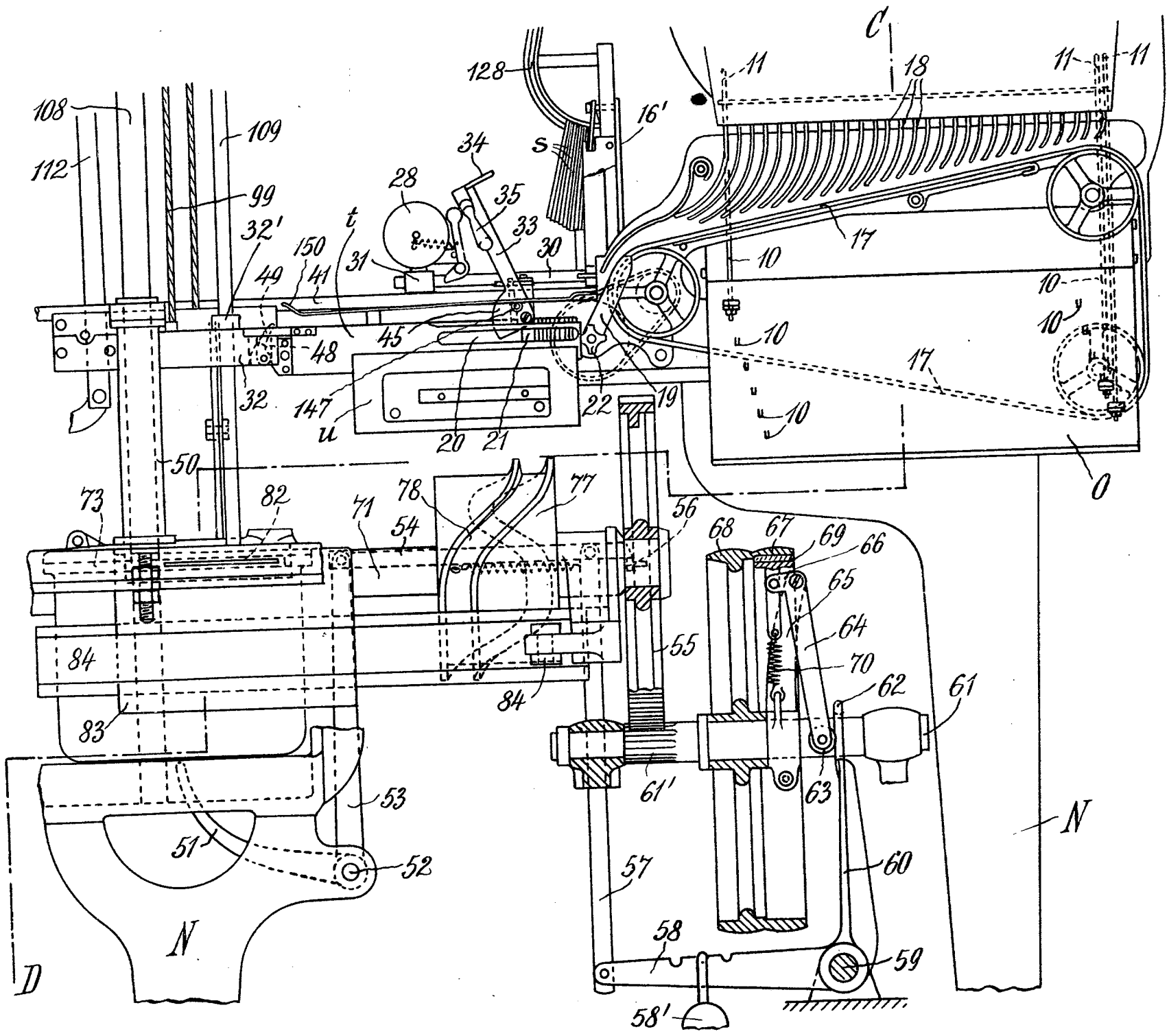
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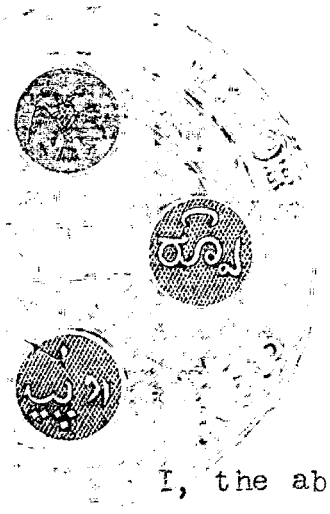

POWER OF ATTORNEY.

IN THE MATTER of the Inventions and Designs Regulation 1894 of the Government of Mysore and in the matter of Arthur Hungerford Pollen a Director of Linotype and Machinery Limited of 188 and 189 Fleet Street, London, England.

I, the above named ARTHUR HUNGERFORD POLLEN do hereby retain, constitute and appoint HENRY HAMILTON REMFRY and RUPERT REMFRY, both of Calcutta, Solicitors & Patent Agents as my Agents and Attorneys to apply for and obtain from the Government of Mysore and keep in force an Exclusive Privilege or Letters Patent for IMPROVEMENTS IN TYPOGRAPHICAL COMPOSING MACHINES and I authorise them to sign my name to such papers and writings and do such acts regarding the same, including the appointment of a substitute or substitutes, as may be necessary or expedient.

Dated this 2nd day of July 1908.

Signed Sealed and Delivered at London, England, in the presence of } A H Pollen

Godfrey Hedges
188 Fleet Street London
Stenographer

Warwick Thy. Williams
188 Fleet Street London
Clerk

G.R.S. 29A]

190 .

From

Secy. to the Govt. of His Highness the Maharaja of Mysore, Genl. and Rev. Dept.

To The Inspt-Genl-Pres

Dated

Despatched 5. 9. 08

Received

General No. G. 1564

GM No. 700-08-2

Enclosure No. 1 appln.

Has the honour to forward herewith for opinion and report the accompanying application of Sir Ashburner Hungerford Pollen for an exclusive privilege in respect of "Improvements in Typographical Composing Machines"

By Order

In Secy to Govt.

V.S.

SV 1/9/08

Replied S.R. 3rd Sept.

MGCPB—20,000—16-2-05

No. 235
Encl SV

From D. 1202

C. H. YATES, Esq.,
Superintendent, Government Press,
Bangalore.

Office of the Superintendent,
Government Press.

Dated Bangalore, 8th September 1908.

To
Gm 100-08-3

To

K. S. Chandrasekhara Iyer, Esq: B.A, B.L.,
Secretary to Government,
General and Revenue departments.

Sir,

In returning herewith the application of Linotype and Machinery "Limited for leave to file a specification in respect of an invention for "Improvements in typographical composing machines" received with your docket No. G 1564/G.M 100-08-2, dated 5th September 1908, I have the honor to invite kind reference to my letter No. 37, dated 9th July 1908, and to state that the opinion therein given applies to the present case also.

I have the honor to be,
Sir,
Your most obedient Servant,
C. H. Yates.
Superintendent
Government Press

GPB—1,000—23-2-08

Money & covers sent
Ult.
309
Zoll. I

[G.R.S. 29.]

1908.

From

Secy. to the Govt. of His Highness the Maharaja of Mysore, Genl. and Rev. Dept.

To

The Supdt. Stamps
Mysore

Dated 28.8.08

Despatched

Received

General No. G 2180

Jm No. 100-08-4

Enclosure No.

Has the honor to forward herewith one rupee and a power of attorney in favour of Messrs Remfry & Son, Solicitors, Calcutta, by Arthur Hungerford Pollen, a Director of Linotype machinery Ltd and to request that the latter may be duly impressed with a Mysore Govt. Stamp of the value of one Rupee

Rs 0

Sd/15/8
Typed S.R

MGCS—20,000—16-2-05.

Journey sewer upon
30/9
Z.B.E. 986

G.R.S. 29A]

3 Drafts 190

From

Secy. to the Govt. of His Highness
the Maharaja of Mysore,
Genl. and Rev. Dept.

To The officer in charge
of the State Bazar
Treasury.

Dated 28.9.08

Despatched

Received

General No. G 2181

Fm No. 100—08—5

Enclosure No.

Has the honor to
forward herewith
Rs 10/- being the
application fee of
Arthur Hungerford
Allen for leave to
file a ~~Spack~~ Specification
under the Mysore
Inventions and Designs
Regulation 1894 for
Improvements in Typo-
graphical Composing
machines and begs
an acknowledgment

Bro

Jr Secy to Govt

MGC—D—20,000—16-2-05.

S. 2152

G.n M. 100-08-6. 28-9-08.

GOVERNMENT OF MYSORE

General Department

Register No. 7 of 1908.

Bangalore, the 15th Sept 1908.

WHEREAS an application, dated the 23rd Aug 1908 and received on the 28th Aug '08, has been submitted under Section 5 of the Mysore Inventions and Designs Regulation, 1894, by Arthur Humberford Allen, a Director of Linotype and Machinery Ltd of 188 & 189 Fleet St. London

(hereinafter referred to as "the applicant") for leave to file a specification of an invention for "Improvements in typographical Composing machines"

And whereas the applicant has duly complied with all the requirements of Section 5 of the said Regulation;

The Government of Mysore are pleased, under Section 6 of the said Regulation, to authorize the applicant to file a specification of the said invention in accordance with the provisions of the said Regulation.

ORDERED, that the applicant be, and he is hereby, informed accordingly.

By Order of the Government of Mysore,

for Secretary to the Govt. of Mysore,
Gen. and Rev. Depts.

Certified that the fees prescribed in the fourth schedule to the Mysore Inventions and Designs Regulation, 1894, in respect of the application for leave to file the said specification and of the filing thereof have been paid by the applicant, and that the specification hereinbefore described has been duly filed in accordance with the provisions of Section 8 of the said Regulation on this the Twenty Seventh day of March 1909.

for Secretary to the Govt. of Mysore,
Gen. and Rev. Depts.

(*Section 8 of the Inventions and Designs Regulation*, 1894.)

8. (1) If within six months from the date of an order under Section 6, Sub-Section (1), or within such further time, not exceeding three months, as the Government of Mysore, in its discretion, may, on cause shown to its satisfaction and on payment of the fee prescribed in that behalf in the fourth schedule, see fit to allow, the applicant causes a specification of his invention to be filed in manner by this Part required, and the fee prescribed in the fourth schedule in respect of the filing of the specification to be paid, the applicant shall, subject to the other provisions of this Part, be entitled to the exclusive privilege of making, selling and using the invention in the Territories of Mysore, and of authorizing others so to do, for a term of fourteen years from the date of the filing of the specification.

(2) But an exclusive privilege in respect of an invention of a new manufacture shall, notwithstanding anything in Sub-Section (1), cease, if the inventor fails to pay, within the time limited in that behalf by the fourth schedule, any fee prescribed in that schedule in respect of the continuance of the privilege

(3) If, nevertheless, in any case, by accident, mistake, or inadvertence, an inventor fails to pay any such fee within the time so limited, he may apply to the Government of Mysore for an enlargement of the time for making the payment.

(4) Thereupon the Government of Mysore may enlarge the time accordingly, on payment of the fee prescribed in that behalf in the fourth schedule, and subject to the following conditions, namely :—

(*a*) the time for making a payment shall not in any case be enlarged for more than three months ; and

(*b*) if any suit is instituted in respect of an infringement of the exclusive privilege committed after a failure to make a payment within the time limited for the making thereof and before the enlargement of that time, the Court disposing of the suit may, if it thinks fit, refuse to award or give any damages in respect of the infringement.

MGCPB—200—11-12-01.

G.R.S. 26]

Form 6

In File No. 100
Serial No. 7

Diary No. of letter replied to _____

No. G 2183.

General and Revenue Secretariat

( )

the 190 .

To Messrs Remfry & Son
Solicitors and Patent agents
8 Hastings Street
Calcutta

Date of issue 28.9.08

Signed by M^r S. P. Nejapof

Gentlemen,

I have the honor to forward herewith G. M 100-08-6/10 G. 2182 bearing Register No. 7 of 1908 granting leave to Mr Arthur Hungerford Rikew, a Director of Linotype and Machinery Ltd of 188+189 Fleet St. London to file a Specification under Pt I of the Indian Inventions and Designs Regulation 1894 for Improvements in

over.

SUBJECT.

Typographical
Composing Machines"

Shaw et al

Sept
In Secy Dept

$0.15

U.S.

List of enclosures.

Copied by S.R

Examined by [illegible]

MGCPB—30,000—16-2-05

SVS'n G/M .7 100-08-8

D 1498

Mysore Stamp Superintendent's Office,
Bangalore, Dated the 30th September 190

From,

B. Srinivasiengar Esqr B.A, B.L,
Officiating Superintendent of Stamps
in Mysore -
Bangalore

To,

K. S. Chandrasekhara Aiyar Esqr
B.A. B.L,
Secretary to the Government of
His Highness the Maharaja of Mysore
General and Revenue Departments,
Bangalore.

No. 72

Incl: one Stamped
Power of attorney.

Sir,

I have the honor to return herewith duly Stamped the Power of attorney forwarded with your docket No. G.2180 G.M 100-08-4 dated the 28th September 1908 and to request the favour of an acknowledgment.

I have the honor to be
Sir.
Your most obedient Servant,

B Srinivasa Iyengar
Superintendent of Stamps
in Mysore

a.o.s.

G. M. 100 of 1908-09 &c 9

No. 79 M. W. 1910 D 1505 Rs. 10-

Received from The Secretary to the Government of His Highness the Maharaja of Mysore General & Revenue Departments

the sum of Rupees Ten only on account of

to XIX Miscellaneous Vide Lr. No. G 2181 dt 28-9-08

G.M. No 101-08-5

H. H. The Maharaja's State Huzur Treasury,
Bangalore, 30-9-1908

By Order,

Exd.

Hd. Acctt. Cashier.

Treasury Officer, State Huzur Treasury.

Application V 427/8

CV

D4109

G m 10070808-09
8.10.

From

REMFRY & SON

Solicitors & Patent Agents

C a l c u t t a.

To

THE SECRETARY TO THE GOVERNMENT OF HIS HIGHNESS
THE MAHARAJA OF MYSORE, Genl & Rev. Depts.
Bangalore, Mysore

U.K. 10704/08. Dated Calcutta, 23rd March 1909.

Sir

Pursuant to the leave dated the 28th September 1908, granted on Application No. 7 of 1908, we have the honour to forward under separate cover four copies of the Specification of ARTHUR HUNGERFORD POLLEN of Linotype and Machinery Limited of 188 and 189 Fleet Street, London, in respect of an Invention for "IMPROVEMENTS IN TYPOGRAPHICAL COMPOSING MACHINES"

The prescribed fee of ₹30/- is sent by P.O.O. today.

The above mentioned Order is enclosed herewith and we solicit the favour of your filling in the date of filing Specifications as 27th March and of your signing the Certificate at foot thereof, returning such Order to us, and entering our Office in Calcutta as the Address for service under the Act

We have the honour to be,

Sir

Your very obedient servants.

REMFRY & SON.

per

COUPON TO BE RETAINED BY PAYEE. /

(The Remitter may write a communication to the Payee, and he is recommended to add his name and address in the space provided below.)

Amount of Order Rs. 30/- 0-0

Name of remitter Remfry & Son.

Mysore Specification
fee A.H.Pollen. 7/08.

REMFRY & SON.

to Br V for note

RG
27/3/09

Money & cover sent.
24/4/09

4815

G.R.S. 29A]

190

From

Secy. to the Govt. of His Highness the Maharaja of Mysore, Genl. and Rev. Dept.

To

The Officer in Charge of State Huzur Dep Bangalore

Dated 20.4.09

Despatched

Received

General No. 5344

No. Gen 100-08-4

Enclosure No. Rs 30

Has the honor to remit herewith Rs 30 (thirty only) being the fee paid by messrs Remfry and Son of Calcutta on behalf of Mr. Arthur Hungerford Pollen a director of Linotype and machinery limited of 188&189 Fleet Street London, for filing a specification in respect of an invention for "Improvements in Typographical Composing machines"

and to request an acknowledgment

Copyright 1914

MYSORE GOVT. GEN. & REV. SECRETARIAT,

No. 5554 S

Dated Bangalore, 20.4. 190 5

5 G 100-08-12

NOTIFICATION.

(PATENT.)

The following specification of an invention has been filed in accordance with Sections 8, 9, 10 and 11 of Regulation XI of 1894 (The Inventions and Designs Regulations) and is open to inspection at the Mysore Government Secretariat on application to the Secretary to the Government of His Highness the Maharaja of Mysore, General and Revenue Departments, and on payment of a fee of one Rupee.

By Mr Arthur Hungerford Pollen a director of Lenotype and machinery limited, of 188 & 189 Fleet Street London.

"Improvements in Typographical composing machines"

By Order,

for Secretary.

To

The Compiler, *Mysore Gazette*, for publication

Copies 164

MYSORE GOVT. GEN. & REV. SECRETARIAT,

No. ₹ 5546 Inc 2. Dated Bangalore, 20-4- 1909

₹ Gen 100-08-13.

From

The Secretary to the Government of H. H. the Maharaja of Mysore,
General and Revenue Departments.

To

Messrs Remfry & Sons
Solicitors and Patent Agents
Calcutta

SIR,

With reference to your letter dated the 23rd March 1909, I am directed to forward copy of a Notification No. ₹ 5545 dated 20-4-09 issued by this Government in regard to the invention filed by you under Regulation XI of 1894, (The Inventions and Designs Regulation).

to be forwarded to the party concerned

The order granting permission to file specification is herewith returned with the certificate at foot, duly filled in and signed.

I have the honor to be,

Sir,

Your most obedient servant,

for Secretary.

Comm. 1614

G.R.S. 29A]

190 .

From

Secy. to the Govt. of His Highness the Maharaja of Mysore, Genl. and Rev. Dept.

To

1) The Chief Engineer
2) The State Geologist
3) The Supdt. of Govt. Museum

Dated

Despatched 20-4-05.

Received

General No. 5559-5

No. 4 L 100-08-14

Enclosure No. (

Has the honor to forward for record one copy of the Specification in respect of an invention for "Typographical composing machines" filed by Mr. Arthur Hungerford Pollen a director of Lindotype and machinery limited of 188 & 189 Fleet Street London, through Agents messrs Remfry and Sons of Calcutta

Copy rec'd 10/4

MGCPB—20 000—16-2-05

and to request an acknowledgment

Yours

G. M. 100 J 1908-09

8(15

No. 356

Received from The Secretary to the Government of His Highness the Maharaja of Mysore General and Revenue Departments

the sum of Rupees Nineteen only being the fee paid by Messrs Remfry & Son of Calcutta on behalf of Sir. Arthur Hungerford Pollen for filing a Specification of an invention and credited this day. Vide his No. Cr 5944 dated 20-4-09

By M. 100-08-11

H. H. MAHARAJA'S STATE HUZUR TREASURY,
BANGALORE,
Exd. 21-4-1909

~~By Order,~~

Hd. Acctt. ~~Daksha.~~

Treasury Officer, State Huzur Treasury.

Noted. This may be returned to Br V for necessary.

M 22/4/09 22/4

11 4 25/4

[M.G.D. 13]

4 5 16

MYSORE GEOLOGICAL DEPARTMENT.

DATED BANGALORE, 22nd April 1909

No. 2595

Genl. 1000 of 1908-09

81 4 5 16

From

DR. W. F. SMEETH, M.A., D.SC., A.R.S.M., &C.,
State Geologist in Mysore.

To

The Secretary to the Govt. of
H.H. the Maharaja of Mysore,
Genl. & Rev. Departments.

SIR,

I have the honour to acknowledge the receipt of a copy of the specification in respect of an invention for "Typographical Composing Machines" filed by Mr. Arthur Hungerford Pollen, a Director of Linotype and Machinery Limited, of 188 & 189, Fleet Street, London, forwarded with your docket No.G 5947-9/Gen.10Q-08-14 dated 20th April 1909.

I have the honour to be,
Sir,
Your most obedient servant,

State Geologist in Mysore.

V 4 7/4 4 5685

1909

From G. A. Krumbiegel Esq.
Supdt. Mysore Govt. Museum.

To K. S. Chandrasekhara Aiyar Esq. B.A., Bch.
Secretary to the Govt. of H. H. the Maha-
-raja of Mysore, Govt and Rev. Depts.

Dated 24th April 09
Despatched ---
Received

General No. 196 } 1908-09
No.

Enclosure No

G.M. 100 of 1908-09
dt 17

Sir

I have the honor to
acknowledge the receipt of a
Copy of an Invention for
Typographical Composing machine
by Dr. Arthur Hungerford Pollen
forwarded with your No. G. 3947-9
G.M. 100-08-16
dated the 20th instant.

I have the honor to be,

Sir,

Your most obed.t Servant

Superintendent

D 4586

No. 3297

MYSORE P. W. DEPARTMENT,

CENTRAL OFFICE,

Bangalore, D. 27 4 1909.

From

W. McHUTCHIN, ESQ., M.I.C.E., G.M.D. 08-09
Chief Engineer
~~Secretary to the Government~~ of Mysore, H. B.
Public Works Department.

To

The Secretary to Government
General & Revenue Department
Bangalore.

SIR,

I have the honor to acknowledge the receipt of a copy of the specification of an invention for "Typographical composing machines" by Mr. Arthur Hungerford Pollen, a Director of Linotype and Machinery Limited of 188 and 189, Fleet Street, London, forwarded with your no. G 5947-49/Com. 100-08-14 of the 20th Instant.

I have the honor to be,
Sir,
Your most obedient servant,

J. Bernard Dann.
Captain R.E.
Chief Engineer of Mysore.

GPB—300—4-12-08

1907

MYSORE P. W. DEPARTMENT.

No. 3297

From The Chief Engineer & Secretary

To The Secretary to Govt Financial & Revenue Depts Bangalore

Dated Bangalore, 27 — 4 — 1907

Despatched

Enclosure No.

SUBJECT.

Acknowledging receipt of a copy of Specification of an invention for "Typographical Composing machine" &c

Q.

Q. M. 100-08-18